

Serial No. 10/027,122 Filed: 12/20/2001 GAU: 2122  
Customer Assignment No. 27516 Attorney Docket No. RA-5425  
Application: Eugene A. Rodi et al  
Michael B. Atlase Reg. No. 30,606 651-635-7062  
Drawing 01 of 12

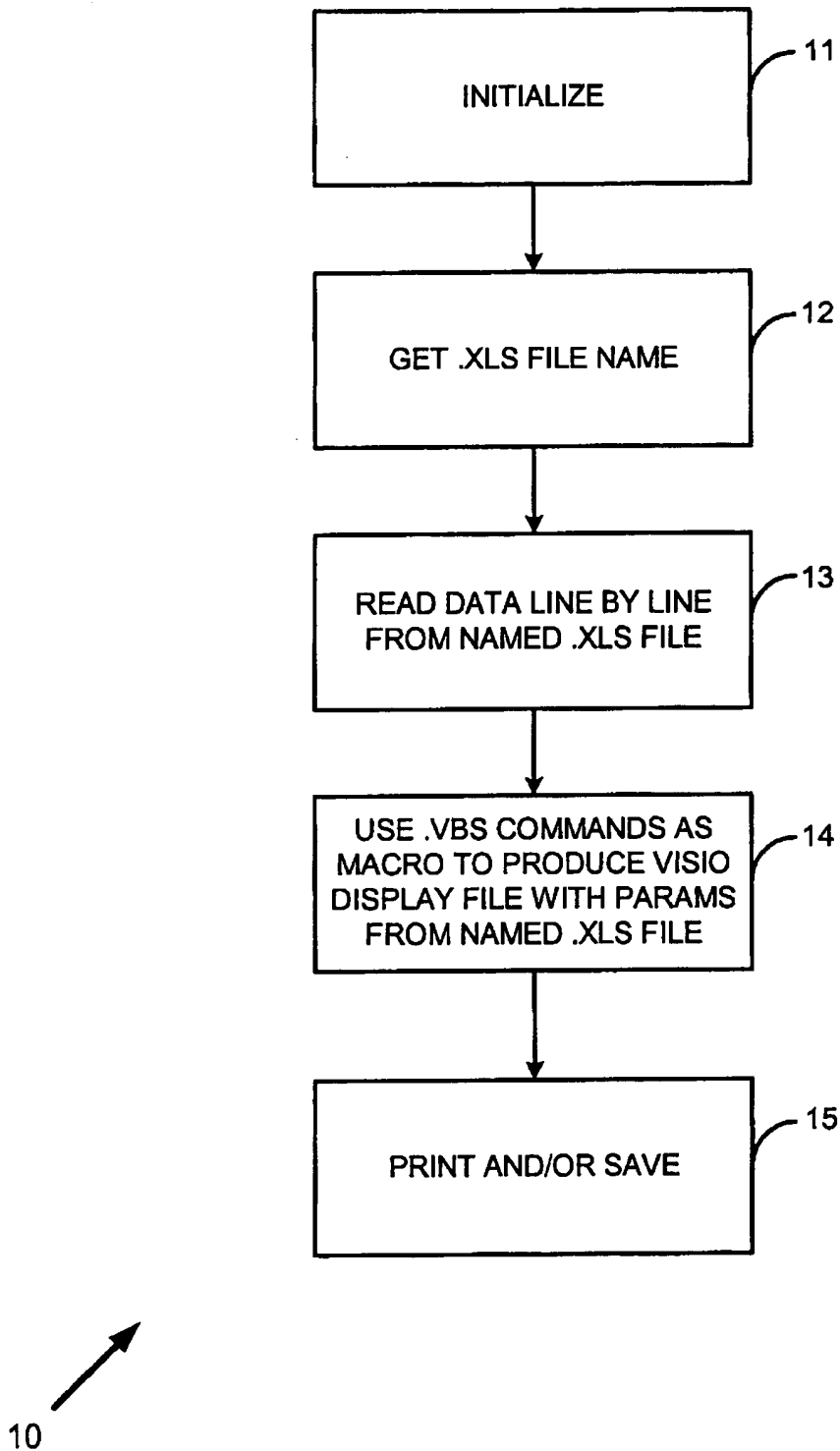


FIG. 1

Serial No. 10/028,152 Filed: 12/20/2001 GAU: 2122  
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 Drawing 02 of 12

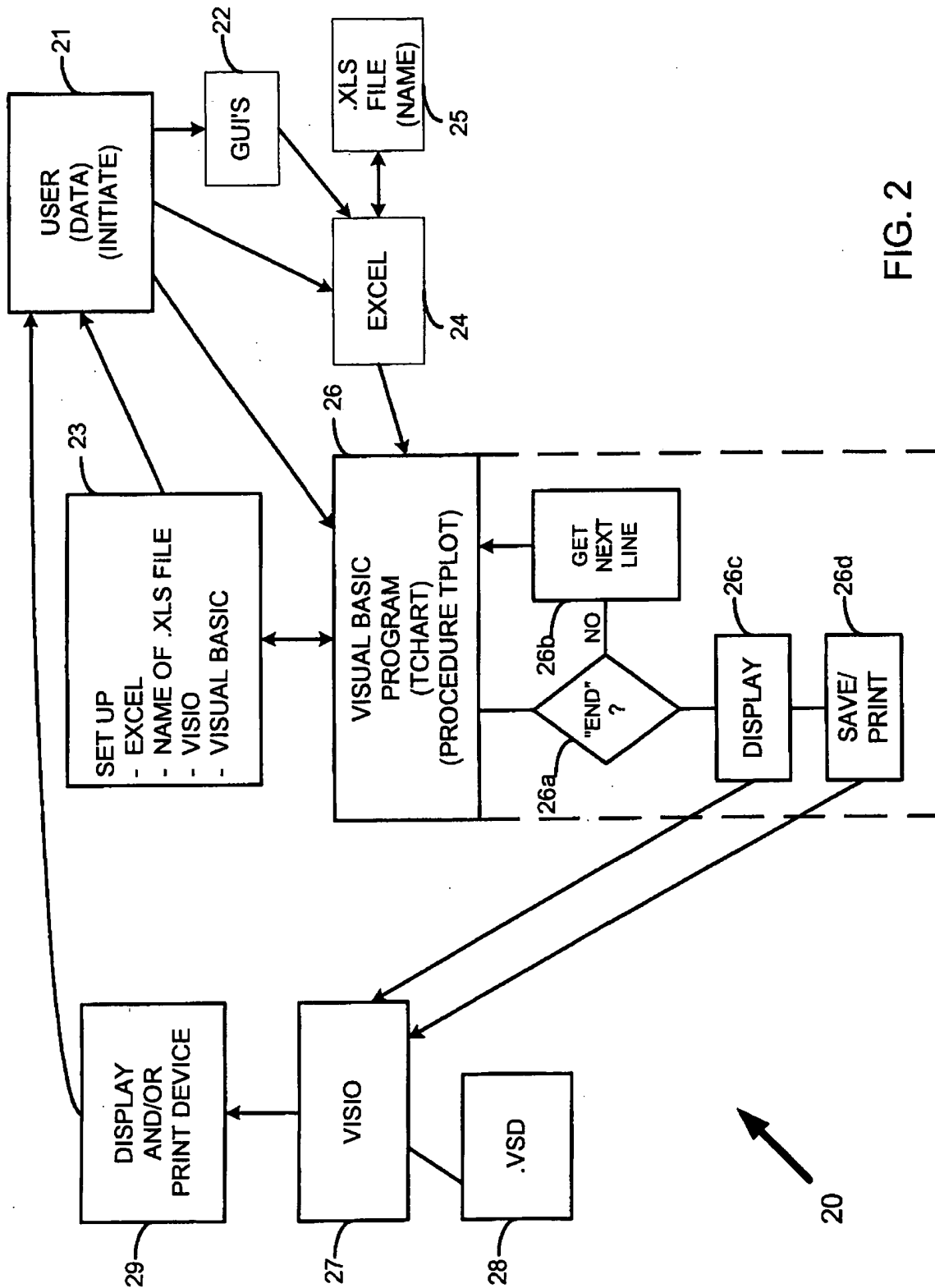


FIG. 2

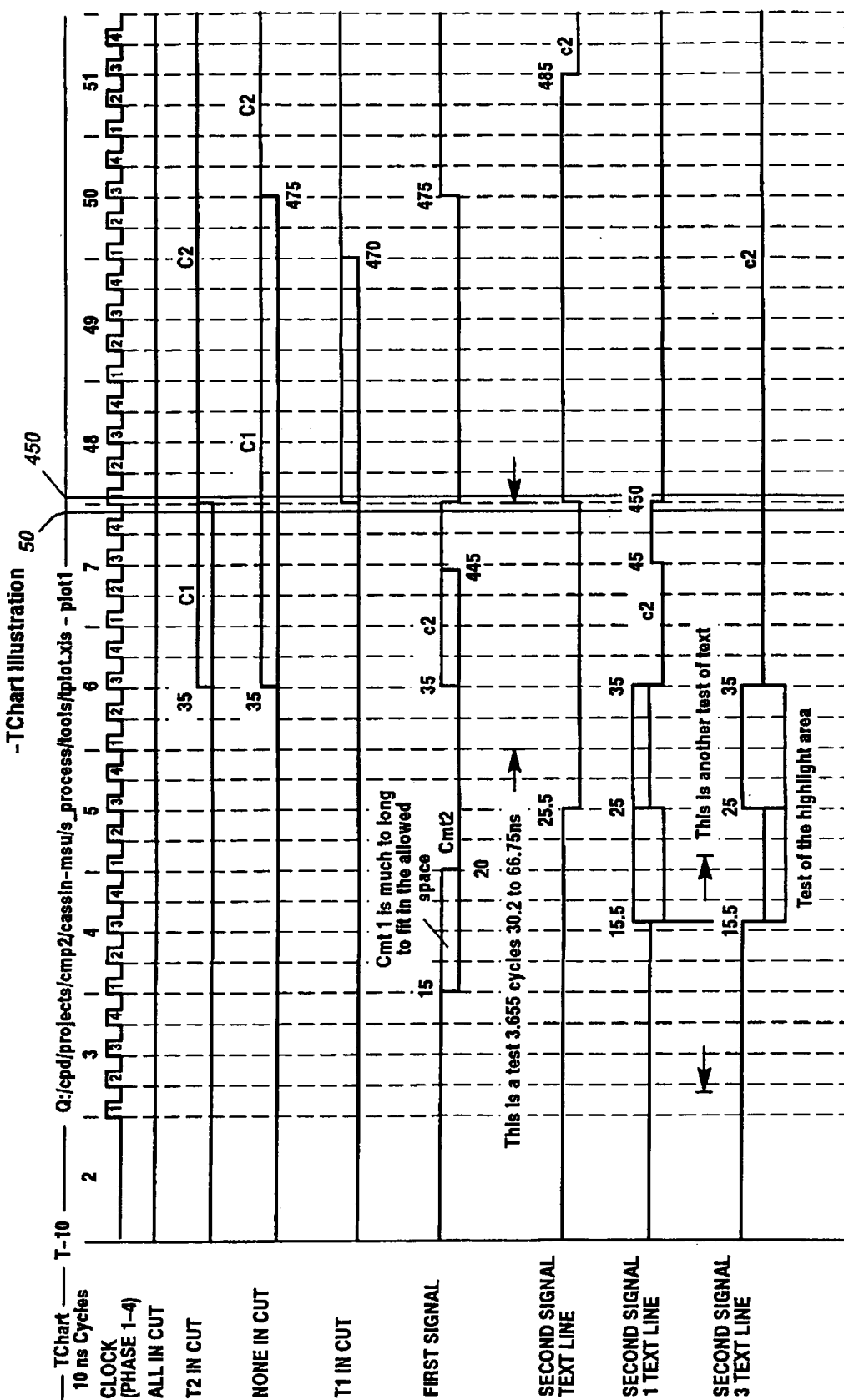
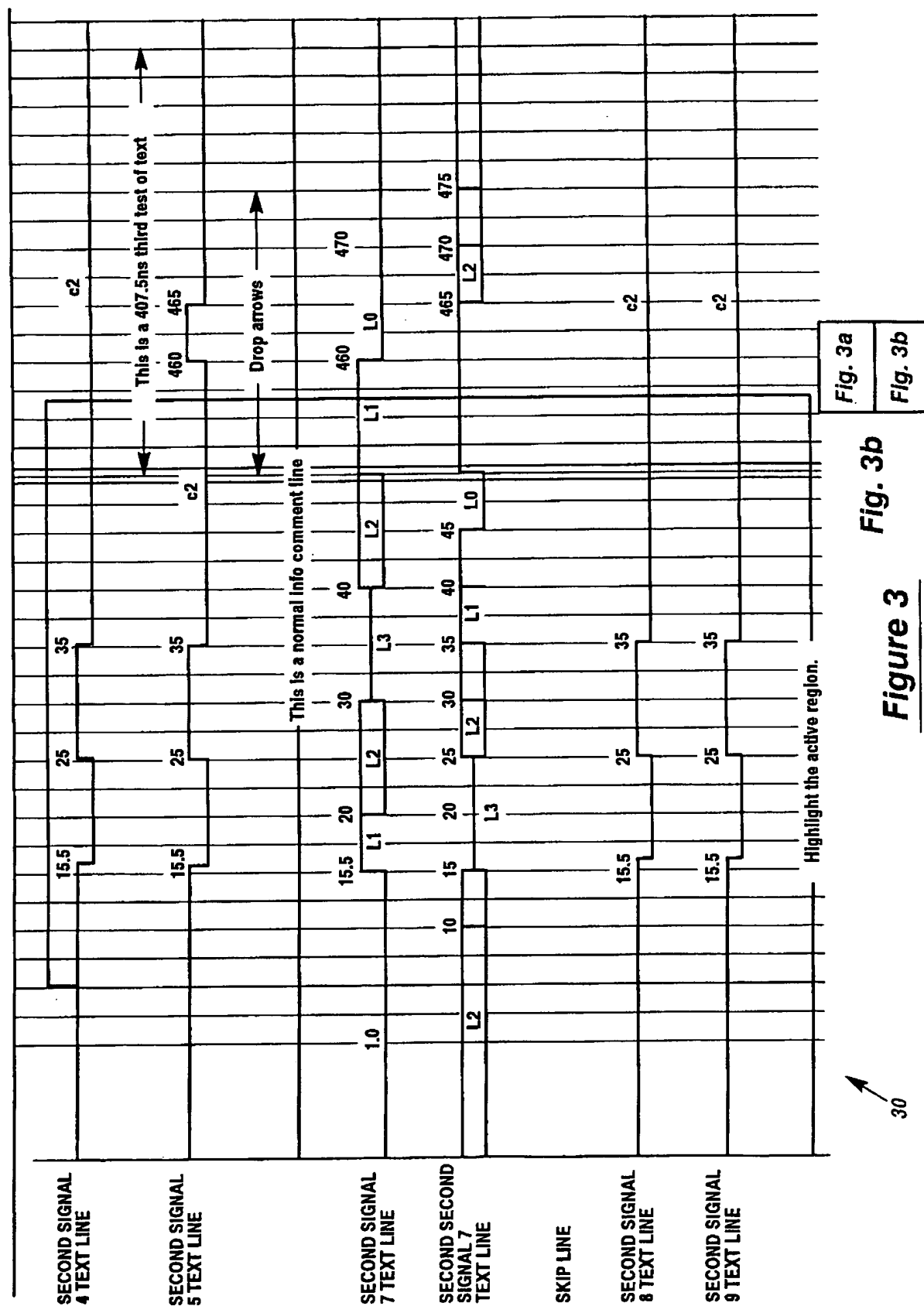


Fig. 3a  
Fig. 3b

Fig. 3a

Figure 3

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### Figure 3

Patent No. 10/028,152 Filed: 12/20/2001 G 2122  
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Drawing 05 of 12

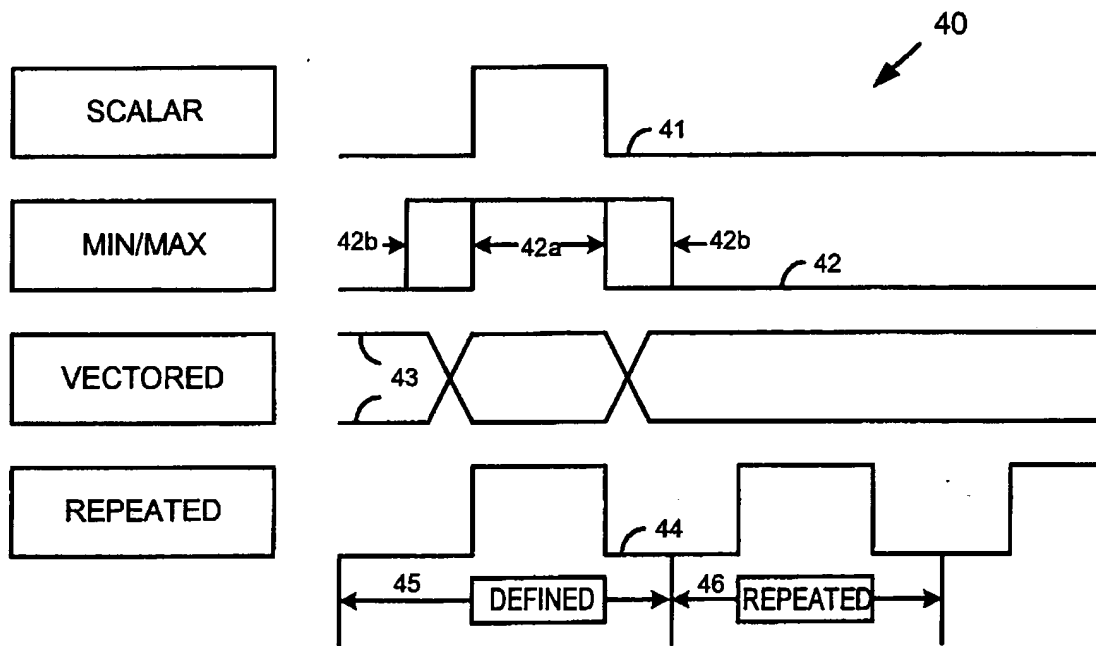


FIG. 4A

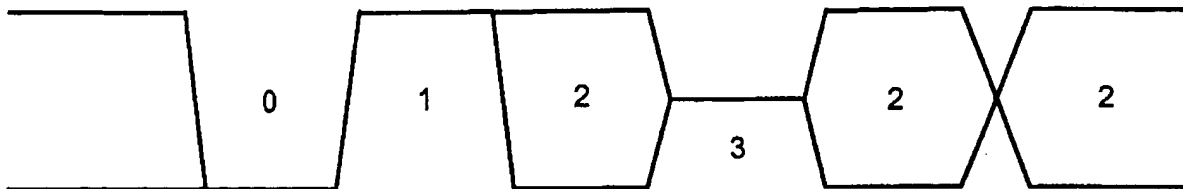


FIG. 4B

**Create a new TChart definition**

**TimeChart**  
Version 1.0 Jan 24, 2001 E.A. Rodi

**Card Option**

☐ Plot Borders  
Page Size ☒ A ☐ B ☐ C ☐ D ☐ E  
☒ Landscape  
☒ Display Times  
☒ Display Bottom Time  
☒ Alternate Text

Plot Color ☒ Black ☐ Red ☐ Green ☐ Blue  
☐ Violet ☐ Cyan

**Header**  
Drawing title   
Base time for plot td

**Cycles**  
Number of cycles to plot  Time period of each cycle  Number of first cycle (+/-)   
**Optional Inputs**  
Title  Time where timeline is broken   
Time where timeline resumes

**Time Markers**  
☐ Repeat markings repeated cycles  
Time period of repeat cycle   
t-M1  t-M2  t-M3  t-M4  t-M5  t-M6  t-M7  t-M8

-NewTimeChart GUI

Figure 5

**Add Clocks**

Pre-clock options      Plot Color    ☒ Black    ☐ Red    ☐ Green    ☐ Blue  
☒ Time    ☐ Bottom    ☒ Alt    ☐ Violet    ☐ Cyan

---

**Define clocks using Phase commands**

Title	Initial Level	Phase Offset	Phase Width	Cycle Time

**Post-clock options**      ☒ Time    ☒ Bottom    ☒ Alt      Plot Color    ☒ Black    ☐ Red    ☐ Green    ☐ Blue  
☐ Violet    ☐ Cyan

---

**Define clocks using Repeat command (Optional)**

Title	Initial Level	Cycle Time	Num Rots

Transition / Dotted      T1 / Comment

<input checked="" type="radio"/> T <input type="radio"/> D		
<input checked="" type="radio"/> T <input type="radio"/> D		
<input checked="" type="radio"/> T <input type="radio"/> D		
<input checked="" type="radio"/> T <input type="radio"/> D		
<input checked="" type="radio"/> T <input type="radio"/> D		
<input checked="" type="radio"/> T <input type="radio"/> D		
<input checked="" type="radio"/> T <input type="radio"/> D		
<input checked="" type="radio"/> T <input type="radio"/> D		

Write to Excel      Cancel

### Figure 6

## —AddClocks GUI

09

**Add New Signals** [X]

**Options**

☒ Time ☒ Bottom ☒ Alt ☐ Plot Color ☒ Black ☐ Red ☐ Green ☐ Blue ☐ Violet ☐ Cyan

**Signal Templates**

Plotas: ☒ Scaler ☐ Min/Max ☐ Vector ☐ Repeat ☐ Dotted ☐ Glitch

Title  Initial Level  Cycle Time of Repeat  Number of Repeats  Number of Transitions  Glitch Type

**Infos**

☒ Comment ☐ Arrows ☐ Begin Arrow ☐ End Arrow ☐ Open Arrow ☐ Close Box

Object Number  Time T1  Time T2  Text

At time

-AddNewSignals GUI

Figure 7

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options	+I	-B							
H	Test Timing Plot Data								
Cycle	10								
options	-T								
Rpt	Clock (Phase 1-4)								
T	0								
T	1.25								
T	2.5								
T	3.75								
T	5								
T	6.25								
T	7.5								
T	8.75								
Options	+T								
Mark									
Label	All in cut								
T	65	C1							
T	85	CC11							
Label	T2 in cut								
T	35	C1							
Label	NONE in cut								
T	35	C1							
Label	T1 in cut								
T	65	C1							
T	85								
T	111								
Label	First Signal								
T	10	Cmt 1 too long to fit this space							
T	35	c2							
Glitch	55	txt							
T	66.6	last							

Figure 8A

T		475	Done				
Info	Show test #c cycles 30.2 to 66ns		Arrows		1	30.2	66.8
Label	Second Signal Text Line			1			
T		25.5					
T		125	c1			< c2	
T		485					
Label	Second Signal 1 Text Line			1			
T		15.5					
T		25	c1				
T		35				c2	
T		45	source of drop				
T		450					
Info	Test of the highlight area		OpenBox		1	15.5	35
Info	Drop Arrows		BeginArrow		1	55	475
Info	This Is another test of text.		Arrows		1	2	21
Label	Second Signal 3 Text Line			1			
t		15.5					
t		25	c1				
t		35				c2	
Info			CloseBox		1		
Label	Second Signal 4 Text Line			1			
t		15.5					
Info	Highlight the active region.		OpenBox		9	5	457
t		25	c1				
t		35				c2	
Info	Mark #T ns. third test of text		Arrows		1	80	488
Label	Second Signal 5 Text Line			1			
T		15.5					

**Figure 8B**

T	25	c1				
T	35					
T	460					
T	465					
Info	test of drop arrows	EndArrow		1		
Info	Mark normal info comment line.					
LV	Second Signal 7 Text Line		0			
TV	15.5	L0		0		
TV	20	L1		1		
TV	30	L2		2		
TV	40	L3		3		
TV	50	L2		2		
TV	460	L1		1		
TV	470	L0		0		
Label v	Second Second Signal 7 Text Line		3			
TV	10	L2		2		
TV	15			2		
TV	20	L3		3		
TV	25			3		
TV	30	L2		2		
TV	35			2		
TV	40	L1		1		
TV	45			1		
TV	50	L0		0		
TV	55			0		
TV	60	L1		1		
TV	465			1		
TV	470	L2		2		
TV	475			2		
Label	Skip line		1			
Glitch	1000					

**Figure 8C**

Label	Second Signal 8 Text Line		1			
T	15.5					
T	25	c1				
T	35			c2		
Label	Second Signal 9 Text Line		1			
T	15.5					
T	25	c1				
T	35			c2		
Info	This text should not print!	CloseBox		9		
LV	Second Signal 7 Text Line		0			
TV	15.5	L0		0		
TV	20	L1		1		
TV	30	L2		2		
TV	40	L3		3		
TV	50	L2		2		
TV	460	L1		1		
TV	470	L0		0		
Label	Second Signal 7 Text Line		3			
TV	10	L2		2		
TV	15			2		
TV	20	L3		3		
TV	25			3		
TV	30	L2		2		
TV	35			2		
TV	40	L1		1		
TV	45			1		
TV	50	L0		0		
TV	55			0		
TV	60	L1		1		
TV	465			1		
TV	470	L2		2		
TV	475			2		
Info	Show text #c cycles 30.2 to 66 ns	Arrows		1	30.2	66.8
END						

**Figure 8D**